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ABSTRACT

Many teenagers have unplanned, unwanted pregnancies. Research has shown that effective contraceptive use is hampered by a lack of knowledge and by negative attitudes. Providing accurate information does not necessarily lead to contraceptive use. This two-phase study attempted to assess contraceptive behavior, knowledge, and beliefs. In the first phase, four studies asked university students (N=505) about sexual activity, methods of contraception, past contraception education, sexual partners, natural family planning, sexual behavior attitudes, and knowledge of sexual myths. Thirty to 60 percent of respondents reported being ineffective users or nonusers of contraception. Reasons for ineffective use or nonuse included lack of a steady partner and infrequency of sexual intercourse. In the second phase of the study, an intervention method was attempted. Experimental subjects (N=74) were undergraduate women students; control subjects (N=78) were students in a human sexuality course and psychology students. Experimental subjects participated in a workshop covering the topics of risk of pregnancy, types of contraceptive methods, and effective use of contraception. In the second part of the workshop, women participated in behavioral-rehearsal tasks. Comparisons with control groups showed participation in the treatment significantly improved contraceptive responsibility. The combination of didactic information exchange, increased communication skills through behavioral rehearsal, and motivation by behavioral contracting seemed to be an effective intervention. (ABL)

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Social Action Research and Prevention of Unplanned Pregnancies

Based on a paper
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Abstract

Unplanned pregnancies are a major personal and social problem. If societal and policy level support for ameliorating these problems is to be obtained, we need empirical research which demonstrates intervention effectiveness. The research reported involved two phases. Phase I consisted of four independent studies which documented the parameters of the problem and suggested alternative interventions. Phase II was the implementation of an intervention which included behavioral rehearsal, contingency contracting and didactic interchange. Comparisons with control groups showed participation in the treatment significantly improved contraceptive responsibility.

Social Action Research and Prevention of Unplanned Pregnancies

In few instances is the truism an ounce of prevention is worth a pound of cure more relevant than in regard to unplanned pregnancies. Each year over one million teenagers become pregnant. Further, recent data indicate that 16% of all sexually active college females have had at least one abortion (Katz & Cronin, 1980). These statistics represent devasting emotional and financial burdens for thousands of our youth.

The cause of so many unwanted pregnancies is reflected in another problem--the problem of ineffective contraceptive use. In a study by Murphy, Dazzo, Yost, and Parelius (1981) questionnaires were administered to 633 university students. Of the sexually active single females only 23% were found to use effective contraception 100% of the time. The percentage dropped even further, to 9%, when the responses of the males were analyzed.

There is no doubt that lack of knowledge will lead to ineffective contraceptive use. Furthermore, effective contraceptive use is hampered because of negative attitudes about contraception. Excuses such as contraception is bothersome or unavailable show both lack of knowledge and negative opinions about contraception (Zelnik, Kim, & Kanter, (1979).

Despite findings that a large number of individuals lack the proper information about contraception, it has been shown that merely providing young adults with more accurate information does not lead to effective contraceptive use. For example, Fujita, Wagner, and Pion (1971) found that degree of contraceptive knowledge is not a good predictor of contraceptive use. A good predictor, however, appears to be degreee of sex guilt. Shah and Zelnik (1981) found that young women who hold negative views about premarital sex, but who had, in fact, had premarital sex tended to "deny" their sexual activity by not being contraceptively prepared. Furthermore, this guilt not only prevents effective contraceptive use, but as shown by Schwartz (1973) it also inhibits the effectiveness of interventions designed to improve contraceptive use. Schwartz found that subjects with high sex guilt retained less information following a lecture on contraception. Bachmann (1981) suggests that many women lack the motivation necessary to use contraception effectively. She states, "For a woman to be motivated to effectively and efficiently use her contraceptive method, she must be satisfied with its esthetic properties, trust its effectiveness, and be comfortable with its safety."

Phase I

Taking into consideration all of the above, the investigators in the present study attempted to assess not only contraceptive behavior, but also contraceptive knowledge and beliefs. It was the investigators' assumption that a data base related to current sexual practices, knowledge and beliefs of a youthful population would aid in the development of an effective intervention program. Phase I of the current research project included four inter-related studies. These studies were designed to provide an information base which could be integrated into a workshop on contraceptive responsibility.

METHOD

Study One

Structured interviews were given to 15 single males and 95 single females from a moderate size southwestern university. Questions asked included: frequency of intercourse, relationship to partner(s), method of contraception, how effective they felt their method was and their views on the chosen method.

Study Two

Objectively formatted questionnaires were given to 107 single females and 85 single males. Information was requested concerning where education about contraception was received, frequency of sexual intercourse, number of sexual partners, history of contraceptive use, and attitudes about their own method of contraception.

Study Three

Thirty-nine structured interviews were conducted with single females. Questions asked related to general and specific knowledge about three methods of natural family planning. Respondents were also asked to give information concerning personal contraceptive history.

Study Four

One-hundred and sixty-four objectively formatted questionnaires were given to students from the same university from which the preceding subjects were drawn. Respondents included 76 single males and 88 single females. Questions asked concerned knowledge of sexual issues, attitudes toward various sexual behaviors, and knowledge concerning a number of myths realted to sex. Participation in all of the studies was voluntary and all subjects were guaranteed anonymity.

RESULTS

Study One

Of the 110 participants 102(93%) were sexually active. Thirty percent of the sexually active were not using any form of contraception or were using ineffective methods. The most frequent reasons for ineffective contraceptive use (35%) had to do with not being involved in a serious relationship. Nineteen percent said they felt lucky or safe, while ten percent said they didn't use contraception because they could not take the pill.

Study Two

Of the 107 female subjects 68 (64%) reported being sexually active and of the 85 male subjects, 67 (79%) reported being sexually active. Forty percent of the females were either ineffective users or non-users, while 60% of the males did not use effective contraception.

Nineteen percent of the males reported that they had been involved in an unwanted pregnancy. Of those males 51% had not changed their contraceptive practices as a result of the pregnancy.

As a part of Study Two the female respondents were asked three open-ended questions regarding the rhythm method of natural family planning. Answers to these questions were often short and vague making them difficult to interpret.

Study Three

Twenty-seven of the thirty-nine participants in Study Three reported they were non-virgins. Eighty percent of the non-virgins used an ineffective method or no method at all for first time intercourse. Eighty-five percent said they had, at some point used an approximation of the calendar method or no method at all.

Although there was an overall lack of knowledge about fertility cycles in both virgins and non-virgins, virgins were significantly less knowledgeable.

Although non-virgins knew more than virgins about the fertility cycle, there was an overall low rate of knowledge for the entire sample. For example, only about five percent of the respondents knew exactly which days in the menstrual cycle were safest for sexual intercourse when wishing to avoid pregnancy.

Study Four

Overall there was no significant difference between males and females when considering the number of misconceptions concerning sexuality that were held to be true, but males appeared to be more likely to believe myths about what reduces the chance of pregnancy.

It was also found that knowing someone was contraceptively prepared would raise the respondent's opinion of that person if they were of the same sex and lower their opinion if they were of the opposite sex.

DISCUSSION

Although all the participants in these studies were college students and therfore well educated, the amount of contraceptive irresponsibility was startling. As expected many of the reasons for ineffective contraceptive

use had little to do with information concerning contraceptive methods.

In Study One the most frequent reason given was lack of a steady partner. This brings up some very interesting possibilities. Apparently these subjects realized the need for contraception, but were unwilling to practice it with a casual sexual partner. Perhaps the subject might not feel a sense of responsibility for a casual partner that they might feel in a more serious relationship. One female claimed to let her partners take full responsibility for contraception because she doesn't want to worry about it right now. However, she went further to say she would get on the pill if she ever fell in love with one person. A male respondent claimed that he did not use a condom because they were inconvenient. He gave no indication that he ever discussed contraception with his partners, but he did say he always left birth control to the woman.

It also appeared that guilt about premartial sex affected the contraceptive use of some respondents. For example, one female claimed she had been having regular sexual intercourse with her boyfriend for four years and had never discussed birth control with him. She said she would probably use some form of birth control after "definite marriage plans" would legitimize her taking an active part in contraceptive decision making.

Another commonly cited reason for ineffective contraceptive use was infrequency of sexual intercourse. One female expressed little or no concern about getting pregnant because of the infrequency of her sexual encounters. She said she would use birth control when she had settled down with one partner. This demonstrates lack of information concerning pregnancy risk and/or denial of sexual activity.

Of course there were those who were not well informed about the need for contraception. One female respondent whose partner occassionally used a condom, and/or she used spermicides or rhythm claimed her methods to be 100% effective. Relying on luck or estimation of the fertility period was also reported and shows ignorance regarding effective contraceptive practices.

Due to the fact that conducting in-depth interviews is very time consuming, difficult to analyze statistically and leads to problems in regard to interpretation, it was decided to follow-up Study One with a study which used questionnaires that were based primarily on objectively formatted items. In Study Two the investigators also wanted to include more males in the sample and to expand the depth and range of the investigation.

When the ineffective users of Study Two were asked why they did not use contraception, the answers were very

similar to those given in Study One. It appears that to many contraception is a topic they are reluctant to discuss with their partners. For example, most males who were labeled ineffective users claimed that they did not know whether or not their partners had used contraception. Both males and females appear to be responsible for this lack of communication.

One of the most alarming findings in Study Two was that, of those males involved in an unwanted pregnancy, 51% had not altered their method of contraception. It is difficult to understand this lack of behavioral change. In any case it is an example of extreme contraceptive irresponsibility.

The final aspect of Study Two related to natural family planning. Here, women appeared to be ignorant in regard to fertility, the menstrual cycle and the rhythm method of birth control; however, due to the open-end nature of the questions, no firm interpretations of the results could be made.

In order to gain more information about women's knowledge of the fertility cycle, Study Three was designed. Due to the problems found in the use of written responses to gather information about this topic, it was decided to use a structured interview approach. Although a smaller sample size would result using this methodology, the

investigators felt it was more important to insure that the participants' responses were interpretable.

The results of Study Three showed ineffective use of contraceptives combines with a lack of knowledge about the fertility cycle. This is a very dangerous situation. Many of the respondents using no contraception were assuming they could not get pregnant on certain days of their cycle. Considering the low number of participants who knew the exact days of the fertility cycle that were safest when wishing to avoid pregnancy, many of these women were at high risk for pregnancy. The fact that non-virgins were significantly more knowledgeable than virgins about the fertility cycle suggests that risk for pregnancies is highest during initial periods of intercourse.

Study Three also revealed the existence of sexual myths regarding contraceptive practices. With the discovery of those myths, the investigators became interested in finding out more about the degree to which and number of sexual myths believed by persons in the college population. This curiosity led to the design of the fourth study. Study Four also attempted to assess attitudes on specific sexual issues.

In Study Four it was found that males were more likely to believe myths about what reduces the chance of pregnancy.

Perhaps this is a factor related to the high number of males found to be ineffective contraceptive users.

Also, one reason for lack of communication about contraception may be explained by the findings of Study Four. The fact that respondents had a lower opinion of someone of the opposite sex if they were contraceptively prepared leads to a situation where it would be aversive to talk openly with an intended partner concerning contraceptive responsibility. See Moore, Bailey, and Saul (1984) for a more detailed reporting of the findings of the four studies included in Phase I.

As expected Phase I supported the findings of previous studies which suggests that irresponsible contraceptive practices are wide-spread. Such a problem as this is especially relevant to community psychology which ideally emphasizes prevention oriented interventions that may be applied to large groups. As McClure et al. (1980) have challenged us, if community interventions are to gain societal and policy level support we need empirical evidence which demonstrates their effectiveness. Despite the adverse individual and society wide consequences of unplanned pregnancies, empirical research which relates to their prevention has seldom been undertaken, and what research exists has even less often employed appropriate controls (Kilmann, Wanlass, Sabalis, and Sullivan, 1981). Phase II was initiated based on the need for the development of a replicable intervention

which would increase contraceptive responsibility, thereby preventing the society-wide problem of unwanted pregnancies.

Current literature provides a starting point for developing such an intervention. Gerrard, McCann, and Fortini (1983) conducted a two part study in order to develop an intervention program to increase effective contraceptive use. In the first part of this study the relationships between sexual attitudes and degree of contraceptive responsibility were determined. Some very interesting findings resulted. Ineffective contraceptive users were more likely than effective contraceptive users to report frequent negative attitudes about contraception and less likely to agree that positive attitudes held the most influence for them. Also, ineffective contraceptive users were more likely to attribute their success at avoiding pregnancy to external factors while effective users attributed their success to internal factors. Finally, fears about the pill, IUD, or diaphragm seemed to be more pronounced for ineffective contraceptive users.

The second part of the Gerrard et. al. (1983) study was one of the testing of the impact of two intervention approaches. An important aspect of the Gerrard et. al. study is that it is one of the few studies in this area which provided a control group. Two experimental groups were used, an informative intervention which consisted of a

lecture session on contraceptive use and effective methods, and a discussion session; and a cognitive restructuring intervention which focused on challenging any negative beliefs concerning contraception. All three groups were measured on degree of contraceptive responsibility and on sexual attitudes. While both attitudes and behavior were changed, no clear relationship existed between the two variables. As for the two interventions, both proved successful after one and three months follow-ups, with the cognitive restructuring intervention proving more effective at the three month period.

Although this study was a very important contribution, it was not without problems. These included an insufficient N for the three month follow-up, an overly exclusive criterion for contraceptive effectiveness and ambiguous questions regarding attitudes (e.g. The guy/guys I'm involved with would think differently of me if I were "prepared" for sex).

In another study (Schinke, Blythe, and Gilchrist (1981) also suggested a cognitive-behavioral approach to preventing adolescent pregnancy. They proposed an intervention which consisted of fourteen 50-minute sessions. During these sessions, information concerning reproduction and contraception was presented and was supplemented with role playing and contracting activities.

The strategy used by Schinke et. al. (1981), while

effective, has several drawbacks. First, they used early adolescents as a target group for their research. While this age group could definitely benefit from contraceptive information, social and ethical considerations do not make them an ideal population for initial methodological research. For example, in the Schinke et al. (1981) study, students were only able to participate if their parents gave them written permission to do so. This could perhaps bias the data, in that the parents who give permission may also be those who are more open to talking with their children about sexuality. In addition, it may be difficult to implement such a program on a wide-scale basis due to parental and/or school district resistance.

Another problem with the approach used by Schinke et al. (1981) is the length of the intervention. Such an extended time frame is not consistent with the time typically available for dealing with contraceptive behavior in most sex education classes.

The following research in some respects improves upon, and in others, extends the methods of Schinke et al. (1981) and Gerrard et. al. (1983). Phase II is a description of the intervention program which was designed based on the findings the preceding studies and the results obtained through our Phase I research.

Phase II

It was determined that any program which is aimed at increasing contraceptive use will need to include information about contraception, the fertility cycle, and being sexually responsible in both long term and casual relationships. The program will also require an effective motivating technique, and a means for improving young persons'abilities to communicate about contraception. Based on our preliminary research and the preceding literature review it was concluded that a behavioral approach would most enable us to meet our objectives. The specific behavioral techniques which we decided to use were didactic information exchange, contingency contracting and behavioral rehearsal.

The didactic information exchange was designed to provide an interactive method for the communication of factual information about contraception. The contingency contracting was included to supplement motivation. The behavioral rehearsal included role playing scenarios designed to increase motivation and to lower inhibitions related to communication of topics important to contraceptive responsibility.

The following sections describe how these techniques were translated into an intervention program. Furthermore the following section provides an empirical test of the impact of our intervention approach.

METHOD

Subjects

The experimental group consisted of 74 undergraduate females enrolled in an introductory level Psychology of Adjustment class. All subjects in the experimental group attended two 50- minute workshop sessions on contraceptive responsibility. In addition to attending the two workshop sessions all experimental subjects were asked to fill out a pre-workshop questionnaire related to sexual activity level and contraceptive practices, a post-workshop evaluation form, and a six week follow-up questionnaire.

In addition to the experimental subjects, two control groups were utilized. Fifty-four of the control subjects were enrolled in a semester long Human Sexuality course in which the topic of contraceptive use was discussed, but without the specific behavior change focus used with the experimental group. Half of the Human Sexuality subjects filled out pre and post-questionnaire, while the other half filled out the post-questionnaire only. The second control group consisted of 24 Psychology of Adjustment students who did not cover contraceptive use in their class.

Procedures

Following administration of the pre-work questionnaire, all subjects in the experimental group were introduced

to the workshop leader. The workshop leader led a didactic interexchange aimed at increasing the participants' knowledge of topics such as: risk of pregnancy, types of contraceptive methods, effective use of contraception, cost, etc.

Before the second workshop session, a rater scored the pre-workshop questionnaire and feedback was given to each participant as to whether she had been classified as an effective, borderline, or ineffective contraceptive user. This process was conducted through written communication and individual subjects were identified only by a fictitious name which they chose themselves.

On the second day of the workshop, the women were asked to participate in several behavioral-rehearsal tasks. Once this was done discussion was conducted concerning the different role playing situations and what the students thought to be appropriate reactions and solutions to the sexual issues the rehearsal tasks depicted. Next, the participants received envelopes containing the contraceptive use classifications as described in the preceding paragraph. The envelope also contained two examples of behavioral contracts. Those who were not sexually active received only the behavioral contracts. All participants who were willing to personalize the two

behavioral contracts were asked to keep one copy of the contract, and to provide a duplicate copy to the workshop leader. In the contract the subject was asked to evaluate her contraceptive responsiblity and to record concrete behaviors she could engage in to maintain or improve her effectiveness. At the end of the second session, the participants completed an evaluation of the workshop in which they were asked to provide feedback concerning the quality and content of the workshop. For a detailed reporting of the workshop content and procedures see Saul (1984) and Saul and Bailey (1984).

RESULTS AND DISCUSSION

Data within the workshop and control groups were analyzed using the McNemar test. This test was used to determine if there was a significant change in contraceptive effectiveness from the pre-workshop questionnaire to the six week follow-up questionnaire. Within the workshop group, a significant change was found, $X(1) = 5.00$, $p < .05$. This change was in the hypothesized direction (from ineffective to effective). In contrast, none of the control subjects who were classified as ineffective on the prequestionnaire changed to effective on the follow-up. In fact, one of the control participants actually went in the opposite direction - from effective to ineffective.

These results show that an effective intervention which takes less than three class sessions can be developed and implemented. In addition, these results show that taking a semester long course in Human Sexuality has no measurable impact on contraceptive responsibility. This lack of influence by information alone supports an approach which utilizes behavioral techniques as described in the present study.

When asked to evaluate the workshop, the participants responded in a very positive manner. All but two stated that they would recommend the workshop to a friend, and nearly all felt as though they had learned something new through their participation. The women were instructed to give any suggestions that they thought would improve future workshops. Some of these included: have a co-ed workshop, have a longer workshop, and role-play situations that involve the consequences of an unwanted pregnancy (i.e. telling your parents).

The investigators feel as though further research on the workshop could prove beneficial. It would be worthwhile to evaluate the importance of the three major components of the workshops: didactic information exchange, behavioral rehearsal, and behavioral contracting. More important though is the need to field test and further validate the effectiveness of the intervention we have developed. We

need to determine the impact of the workshop using a longer follow-up period and we need to ascertain the impact on males as well as females during the field testing.

CONCLUSION

The preceding research contains several findings which are of interest to persons concerned with problems related to unplanned pregnancies. From Phase I we were able to determine the parameters of contraceptive use among college students. We learned that over forty percent (40%) of the sexually active females we interviewed were ineffective or non-user of contraception. Furthermore, of those who were not sexually active we could anticipate that over seventy percent (70%) could be expected to use ineffective or no contraception the first time they have intercourse.

Phase II involved an intervention designed to reduce the preceding risk. A workshop which increased knowledge levels through didactic information exchanged, increased communication skills through behavioral rehearsal, and provided motivation through behavioral contracting was developed. An important aspect of Phase II was the empirical testing of the impact of this intervention.

The results showed that, with a minimal time and cost investment, it is possible to have a positive impact

on contraceptive responsibility. The workshop developed was designed for a college student population, but it could be easily modified for implementation with younger participants. Still, the Phase I research showed there is a documentable need for action at the college level.

Given the consequences of an unplanned pregnancy, it is unconscionable that we do not take action to prevent its occurrence. The preceding research offers us a vehicle for this prevention. The three session long workshop which was developed proved to be more effective than a semester long course in Human Sexuality in promoting responsible contraceptive behavior. This means that we are not going to have a meaningful impact on contraceptive behavior if we rely on information dissemenation alone. Instead we need to make an active commitment to increasing contraceptive responsibility. Our research show that one way of translating this commitment into effective action is to expose sexually active persons and persons who will become sexually active in the future to a workshop which contains didactic information exchange, behavioral rehearsal and behavioral contracting.

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